



---

**west virginia department of environmental protection**

---

Division of Air Quality  
601 57<sup>th</sup> Street SE  
Charleston, WV 25304  
Phone 304/926-0475

Jim Justice, Governor  
Austin Caperton, Cabinet Secretary  
[www.dep.wv.gov](http://www.dep.wv.gov)

**GENERAL PERMIT REGISTRATION APPLICATION  
ENGINEERING EVALUATION / FACT SHEET**

**BACKGROUND INFORMATION**

Registration No.: G60-C087A  
Plant ID No.: 037-00104  
Applicant: U.S. Customs and Border Protection  
Facility Name: CBP Advanced Training Center  
Location: Harpers Ferry, Jefferson County  
SIC Code: 9221; NAICS Code: 922120  
Application Type: Modification  
Received Date: March 24, 2017  
Engineer Assigned: John Legg  
Fee Amount: \$1,500.00  
Date Received: February 18, 2016  
Complete Date: March 16, 2017  
Applicant Ad Date: March 7, 2017  
Newspaper: *The Journal Publishing Company*  
UTM's: Easting: 259.772 km Northing: 4355.118 km Zone: 17  
Description: This modification permit application is for the construction and operation of two (2) additional emergency generators for the purpose of providing back-up electrical power for critical operating functions at the CBP Advanced Training Center located at the U.S. Customs and Border Protection Center in Harpers Ferry, West Virginia. The emergency generators will be operated no more than 500 hours per year and the facility will limit testing/maintenance use to 52 hours per engine per calendar year.

**PROCESS DESCRIPTION**

A total of twelve (12) emergency generators have been installed and operated at the Advanced Training Center since 2005; ten (10) generators were permitted under C60-C087; two (2) additional generators will be permitted under this general permit: C60-C087A. Diesel fueled emergency generators of various size were added over the course of the facility's development to provide backup emergency power for critical facility operations. The last emergency generator was installed in 2017. The following Table outlines the facility/generator configuration. The latest two (2) generators are shown in red:

**Table 1: Emergency Generator and Control Device Listing.**

<b>Emission Unit ID</b>	<b>Emission Unit Description</b>	<b>Detail Make/Model Fuel/Throughput</b>	<b>Year Installed/ Modified</b>	<b>Design Capacity</b>	<b>Year Manufactured</b>	<b>Diesel Fuel Storage (gallons)</b>	<b>Control Device</b>
GEN-01	Emergency Generator #1	Detroit Diesel, 6063HK35, 2FO / 4.01 ft3/hr	11/14/2006	415 kW 635 bhp	2004	730	None
GEN-02	Emergency Generator #2	John Deere, 6068TF250 2FO / 1.0 ft3/hr	1/11/2005	110 kW 190 bhp	2004	204	None
GEN-03	Emergency Generator #3	John Deere, 6068TF250 2FO / 1.0 ft3/hr	6/13/2005	110 kW 190 bhp	2004	204	None
GEN-04	Emergency Generator #4	Detroit Diesel, 10V1600G80S, 2FO / 4.43 ft3/hr	11/14/2006	500 kW 765 bhp	2004	905	None
GEN-05	Emergency Generator #5	John Deere, 4045TF150 2FO / 0.724 ft3/hr	1/11/2005	62 kW 99 bhp	2004	119	None
GEN-06	Emergency Generator #6	John Deere, 6090HF484 2FO / 0.724 ft3/hr	7/15/2010	255 kW 345 bhp	2009	1,460	None
GEN-07	Emergency Generator #7	MTU Onsite Energy, 12V2000G85TB 2FO / 7.72 ft3/hr	7/20/2011	750 kW 1,193 bhp	2010	1,409	None
GEN-08	Emergency Generator #8	MTU Onsite Energy, 12V2000G85TB 2FO / 7.72 ft3/hr	7/20/2011	750 kW 1,193 bhp	2010	1,409	None
GEN-09	Emergency Generator #9	John Deere, 6068TF285 2FO / 1.56 ft3/hr	11/15/2012	155 kW 237 bhp	2012	300	None
GEN-10	Emergency Generator #10	MTU Onsite Energy, 6R1600G70S 2FO / 2.34 ft3/hr	2016	230 kW 418 bhp	2014	1,530	None
<b>GEN-11</b>	<b>Emergency Generator #11</b>	<b>MTU Onsite Energy, DS600D6SRA 2FO/ 5.35 ft3/hr</b>	<b>2017</b>	<b>668 kW 896 bhp</b>	<b>2014</b>	<b>3,000</b>	<b>A/F, LEC</b>
<b>GEN-12</b>	<b>Emergency Generator #12</b>	<b>Kohler Power System 40REOZK 2FO/ 0.50 ft3/hr</b>	<b>2017</b>	<b>50 kW 67 bhp</b>	<b>2017</b>	<b>146</b>	<b>A/F, LEC</b>

\* A/F = Air to Fuel Ratio. LEC = Low Emission Combustion.

GEN-01 through GEN-12 are equipped with integrated sub-base fuel tanks. The largest tank (GEN-10) is 1,530 gallons.

<b>Table 2: U.S. EPA Model Year Certificate of Conformity with CAA.</b>				
<b>Emission Unit ID.</b>	<b>Diesel Generator Set</b>	<b>Engine Manufacturer/ Certificate Issued to:</b>	<b>Engine Family</b>	<b>Certificate Number</b>
<b>GEN-11</b>	MTU Onsite Energy DS600D6SRA; Model 12V1600G80S; <b>896 bhp @1800 rpm; 668 kW; 4-Cycle; Arrangement 12-V; Displacement 21L; Compression Ratio 17.5:1; Diesel Engine;</b>	Tognum America, Inc.	EMDDL14.0ZWK	EMDDL14.0ZWK-005 (2014 Model Year)
<b>GEN-12</b>	Kohler Power Systems 40REOZK, 60 HZ. Diesel Industrial Generator Set <b>67 bhp @1800 rpm; 50 kW, 4-Cycle, 4 Cylinder, Inline; Turbocharged; Compression Ratio: 18.5:1; After Treatment Devices: No After Treatment Devices Installed; Non-after Treatment Devices: Engine Design Modification</b>	Kohler Co.	HKHXL3.36EST	HKHXL3.36EST-008 (2017 Model Year)

**Table 3: Information on New Diesel-fueled Generator Engines to be Located at the US Customs and Border Protection Training Center, Harpers Ferry, WV.**

<b>Sources ID No.</b>	<b>GEN-11</b>	<b>GEN-12</b>
Engine Manufacturer	MTU	Kohler
Model	DS600D6SRA	40REOZK
Manufacturer's Rated (bhp/rpm)	896 bhp /1800 rpm	67 bhp / 1800 rpm
Engine Manufactured Date	2014	2017
Is this a Certified Stationary Compression Ignition Engine according to 40 CFR 60 Subpart IIII?	Yes	Yes
Engine Type	LB4S	LB4S
APCD Type	A/F, LEC	A/F, LEC
Fuel Type	2FO	2FO
BSFC (Btu/bhp-hr)	5,734	7,093
Fuel Consumption (ft3/hr)	5.35	0.50
Operation (hr/yr)	500	500

## **SITE INSPECTION**

A site inspection was deemed unnecessary by the writer at this time, however, because of this permitting action, the facility will be placed on the emergency generator list of sources that needs to be inspected by DAQ Enforcement.

### **Directions from Northern Virginia and Washington DC:**

- Take Rt 267 West (Dulles toll road) toward Leesburg
- Merge onto Rt 7 West, Exit 1A on the LEFT toward Leesburg/Warrenton
- Take the Rt 9 West exit toward Hillsboro/Charles Town
- Turn RIGHT onto Rt 9 (Charles Town Pike)
- Turn Right onto Rt 671 North (Harpers Ferry Road)
- At the light, turn LEFT onto Rt 340 (Jefferson Pike)

After the Shenandoah River bridge at Harpers Ferry, you will pass a Quality Inn on your left. One mile past the Quality Inn, turn LEFT onto Koonce Road. The ATC entrance is on the left.

### **Directions from I-81 and Martinsburg, WV:**

- Take WV exit 12 off I-81
- Travel East on Rt 9 toward Charles Town
- At Charles Town, take right exit ramp onto Rt 340 North toward Harpers Ferry

After passing Halltown Road on your left, turn RIGHT onto Koonce Road (there are two opportunities to turn, in case you miss the first right).

### **Directions from Frederick, MD:**

- Route 340 South to Harpers Ferry, WV
- Continue over the Potomac River bridge and straight at the stop light.

After the Shenandoah River bridge at Harpers Ferry, you will pass a Quality Inn on your left. One mile pas the Quality Inn, turn LEFT onto Koonce Road. The ATC entrance is on the left.

## **ESTIMATE OF EMISSIONS BY REVIEWING ENGINEER**

Engine emissions estimates for criteria pollutants CO, NO<sub>x</sub>, SO<sub>2</sub> and VOC for the two new generators were derived from Manufacturer's Data and from AP-42 by the applicant and checked for accuracy and completeness by the writer. Emission estimates for hazardous and toxic pollutants were determined using emission factors from AP-42, Section 3.4, Table 3.4-3.

U.S. Customs and Border Protection's emergency generator installation and operations will result in the following estimated potential to discharge controlled emissions:

**Table 4: Emergency Generator Emission Summary - Criteria Pollutants.**

Source ID No.	Potential Emissions (lbs/hr)					Potential Emissions (tons/yr)				
	NO <sub>x</sub>	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	NO <sub>x</sub>	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>
GEN-01	8.26	3.49	0.45	5.14	0.44	2.06	0.87	0.11	1.28	0.11
GEN-02	5.89	1.27	0.47	0.39	0.42	1.47	0.32	0.12	0.10	0.10
GEN-03	5.89	1.27	0.47	0.39	0.42	1.47	0.32	0.12	0.10	0.10
GEN-04	9.95	4.21	0.54	6.19	0.54	2.49	1.05	0.13	1.55	0.13
GEN-05	3.07	0.66	0.24	0.20	0.22	2.49	1.05	0.13	1.55	0.13
GEN-06	10.70	2.30	0.85	0.71	0.76	2.67	0.58	0.21	0.18	0.19
GEN-07	8.05	2.13	2.54	9.65	0.24	2.01	0.53	0.64	2.41	0.06
GEN-08	8.05	2.13	2.54	9.65	0.24	2.01	0.53	0.64	2.41	0.06
GEN-09	7.35	1.58	0.59	0.49	0.52	1.84	0.40	0.15	0.12	0.13
GEN-10	2.48	0.41	0.78	0.86	0.04	0.62	0.10	0.20	0.21	0.01
<b>GEN-11</b>	<b>8.06</b>	<b>0.59</b>	<b>2.55</b>	<b>7.25</b>	<b>0.06</b>	<b>2.02</b>	<b>0.15</b>	<b>0.64</b>	<b>1.81</b>	<b>0.01</b>
<b>GEN-12</b>	<b>0.42</b>	<b>0.10</b>	<b>0.01</b>	<b>0.14</b>	<b>0.03</b>	<b>0.10</b>	<b>0.02</b>	<b>0.003</b>	<b>0.03</b>	<b>0.01</b>
TOTAL	78.17	20.14	12.03	41.06	3.93	21.25	5.92	3.093	11.75	1.04

**Table 5: Emergency Generator Emission Summary - Hazardous/Toxic Pollutants.**

Source ID No.	Potential Emissions (lbs/hr)						Potential Emissions (tons/yr)					
	Benzene	Ethyl-benzene *	Toluene	Xylenes	n-Hexane*	Formaldehyde	Benzene	Ethyl-benzene *	Toluene	Xylenes	n-Hexane*	Formaldehyde
GEN-01	0.49	No Data	0.18	0.12	No Data	0.05	0.12	No Data	0.04	0.03	No Data	0.01
GEN-02	0.18	No Data	0.08	0.05	No Data	0.22	0.04	No Data	0.02	0.01	No Data	0.06
GEN-03	0.18	No Data	0.08	0.05	No Data	0.22	0.04	No Data	0.02	0.01	No Data	0.06
GEN-04	0.59	No Data	0.21	0.15	No Data	0.06	0.15	No Data	0.05	0.04	No Data	0.02
GEN-05	0.09	No Data	0.04	0.03	No Data	0.12	0.02	No Data	0.01	0.01	No Data	0.03
GEN-06	0.32	No Data	0.14	0.1	No Data	0.41	0.08	No Data	0.04	0.02	No Data	0.41
GEN-07	0.93	No Data	0.34	0.23	No Data	0.09	0.23	No Data	0.08	0.06	No Data	0.02
GEN-08	0.93	No Data	0.34	0.23	No Data	0.09	0.23	No Data	0.08	0.06	No Data	0.02
GEN-09	0.22	No Data	0.1	0.07	No Data	0.28	0.06	No Data	0.02	0.02	No Data	0.07
GEN-10	0.39	No Data	0.17	0.12	No Data	0.49	0.1	No Data	0.04	0.03	No Data	0.12
<b>GEN-11</b>	<b>0.7</b>	No Data	<b>0.25</b>	<b>0.17</b>	No Data	<b>0.07</b>	<b>0.17</b>	No Data	<b>0.06</b>	<b>0.04</b>	No Data	<b>0.02</b>
<b>GEN-12</b>	<b>0.06</b>	No Data	<b>0.03</b>	<b>0.02</b>	No Data	<b>0.08</b>	<b>0.02</b>	No Data	<b>0.01</b>	<b>0.01</b>	No Data	<b>0.02</b>
Total	5.08	---	1.96	1.34	---	2.18	1.26	---	0.47	0.335	---	0.86

\* There are no AP42 emission factors for ethyl-benzene and n-hexane.

## GENERAL PERMIT ELIGIBILITY


The proposed construction and operation of this facility meets the eligibility (Section 1.3), and limitations and standards (Section 5.1) as specified in General Permit G60-C. Five of the engines were manufactured prior to 2006 (Units GEN-01, GEN-02, GEN-03, GEN-04, and GEN-05); thus, these engines would normally be governed under the U.S. EPA's National Emission Standards for Hazardous Pollutants ("NESHAP") as per 40CFR63 Subpart ZZZZ. However, U.S. Customs and Border Protection qualifies for Subpart ZZZZ's institutional exemption, therefore, the provisions do not apply to these affected sources. The remaining **seven** engines (Units GEN-06 thru GEN-12) were manufactured after 2006 and are all EPA certified; thus, these engines will operate under EPA's New Source Performance Standard ("NSPS") 40CFR60 Subpart IIII.

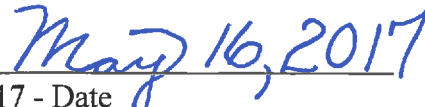
The proposed construction and operation of this facility meets the limitations and standards (Section 6.1) as specified in the General Permit G60-C. Per Section 7.1.4.b. of General Permit G60-C, petroleum liquid storage tank volume shall not exceed 39,889 gallons capacity and maximum true vapor pressure shall not exceed 2.17 psia for petroleum liquid storage tanks greater than 19,812 gallon capacity. The tank volumes provided for the **twelve** sub-base integrated tanks listed in Table 1 of this evaluation and are each less than 19,812 gallons.

Note that U.S. Customs and Border Protection submitted a notarized 300 ft Siting Criteria Waiver signed March 21, 2017 by Facility Manager Michael J. Tepedino in Attachment M to the permit application.

## RECOMMENDATION TO DIRECTOR

U.S. Customs and Border Protection's request to construct and operate two additional emergency generators at their Harpers Ferry, Jefferson County, WV facility meets the requirements of General Permit G60-C and all applicable rules and therefore should be granted a General Permit Registration to construct and operate the two new emergency generators.

  
\_\_\_\_\_  
John Legg  
Permit Writer

  
\_\_\_\_\_  
May 16, 2017 - Date

*West Virginia Department of Environmental Protection*  
*Earl Ray Tomblin* *Division of Air Quality* *Randy C. Huffman*  
*Jim Justice* *Austin Caperton*  
*Governor* *Cabinet Secretary*

Class II General Permit  
G60-C Registration to ~~Construct~~ Modify



for the  
Prevention and Control of Air Pollution in regard to the  
Construction, Modification, Relocation, Administrative Update and  
Operation of Emergency Generators

*The permittee identified at the facility listed below is authorized to  
construct the stationary sources of air pollutants identified herein in accordance  
with all terms and conditions of General Permit G60-C.*

**G60-~~C087~~C087A**

Issued to:  
**U.S. Customs & Border Protection**  
**CBP Advanced Training Center**  
**Company ID: 037-00104**

---

*William F. Durham*  
*Director*

*Issued: ~~June 13~~ May 16, 2017 • Effective: May 16, 2016 • ~~Effective: June 13, 2016~~*

I

2017



Facility Location: Harpers Ferry, Jefferson County, West Virginia  
Mailing Address: 440 Koonce Road, Harpers Ferry, WV 25425  
Facility Description: Law Enforcement Training  
SIC Codes: 9221  
NAICS Codes: 922120  
UTM Coordinates: 259.8 km Easting • 4,355.1 km Northing • Zone 17  
Registration Type: ~~Construction~~ Modification  
Description of Change: General permit ~~for ten (10)~~ modification to add two (2) new diesel-fueled, emergency generator \_\_\_\_\_ engines.

Subject to 40CFR60 Subpart IIII? No (GEN-01-GEN-05), Yes (GEN-06 – GEN-~~10~~12), Certified? Yes (GEN-06 – GEN-~~10~~12)  
Subject to 40CFR60 Subpart JJJJ? No

*Any person whose interest may be affected, including, but not necessarily limited to, the applicant and any person who participated in the public comment process, by a permit or registration issued, modified or denied by the Secretary may appeal such action of the Secretary to the Air Quality Board pursuant to article one [§§ 22B-1-1 et seq.], Chapter 22B of the Code of West Virginia. West Virginia Code §22-5-14.*

\_\_\_\_\_  
*The source is not subject to 45CSR30.*  
\_\_\_\_\_

**All registered facilities under Class II General Permit G60-C are subject to Sections 1.0, 2.0, 3.0, and 4.0.**

The following sections of Class II General Permit G60-C apply to the registrant:

- |           |   |                                     |
|-----------|---|-------------------------------------|
| Section 5 | Reciprocating Internal Combustion Engines (R.I.C.E.)  | <input checked="" type="checkbox"/> |
| Section 6 | Tanks   | <input checked="" type="checkbox"/> |
| Section 7 | Standards of Performance for Stationary Compression Ignition Internal Combustion Engines (40CFR60 Subpart IIII) | <input checked="" type="checkbox"/> |
| Section 8 | Standards of Performance for Stationary Spark Ignition Internal Combustion Engines (40CFR60 Subpart JJJJ)       | <input type="checkbox"/>            |

**Emission Units**

Emission Unit ID	Emission Unit Description	Detail Make/Model Fuel/Throughput	Year Installed/ Modified	Design Capacity	Year Manufactured
GEN-01	Emergency Generator #1	Detroit Diesel, 6063HK35, 2FO / 4.01 ft <sup>3</sup> /hr	11/14/2006	415 kW 635 bhp	2004
GEN-02	Emergency Generator #2	John Deere, 6068TF250 2FO / 1.0 ft <sup>3</sup> /hr	1/11/2005	110 kW 190 bhp	2004
GEN-03	Emergency Generator #3	John Deere, 6068TF250 2FO / 1.0 ft <sup>3</sup> /hr	6/13/2005	110 kW 190 bhp	2004
GEN-04	Emergency Generator #4	Detroit Diesel, 10V1600G80S, 2FO / 4.43 ft <sup>3</sup> /hr	11/14/2006	500 kW 765 bhp	2004
GEN-05	Emergency Generator #5	John Deere, 4045TF150 2FO / 0.724 ft <sup>3</sup> /hr	1/11/2005	62 kW 99 bhp	2004
GEN-06	Emergency Generator #6	John Deere, 6090HF484 2FO / 0.724 ft <sup>3</sup> /hr	7/15/2010	255 kW 345 bhp	2009
GEN-07	Emergency Generator #7	MTU Onsite Energy, 12V2000G85TB 2FO / 7.72 ft <sup>3</sup> /hr	7/20/2011	750 kW 1,193 bhp	2010
GEN-08	Emergency Generator #8	MTU Onsite Energy, 12V2000G85TB 2FO / 7.72 ft <sup>3</sup> /hr	7/20/2011	750 kW 1,193 bhp	2010
GEN-09	Emergency Generator #9	John Deere, 6068TF285 2FO / 1.56 ft <sup>3</sup> /hr	11/15/2012	155 kW 237 bhp	2012
GEN-10	Emergency Generator #10	MTU Onsite Energy, 6R1600G70S 2FO / 2.34 ft <sup>3</sup> /hr	2016	230 kW 418 bhp	2014

← Formatted Table

Emission Unit ID	Emission Unit Description	Detail Make/Model Fuel/Throughput	Year Installed/Modified	Design Capacity	Year Manufactured
GEN-11	Emergency Generator #11	MTU Outside Energy, DS600D6SRA 2FO/5.35 ft <sup>3</sup> /hr	2017	668 kW 896 bhp	2014
GEN-12	Emergency Generator #12	Kohler Power System 40REOZK 2FO/0.50 ft <sup>3</sup> /hr	2017	50 kW 67 bhp	2017

Formatted Table

GEN-01 – GEN-10 are equipped with integrated sub-base fuel tanks. The largest tank is 1,530 gallons.

### Reciprocating Internal Combustion Engines (R.I.C.E.) Information

Emission Unit ID	Subject to 40CFR60 Subpart IIII?	Subject to 40CFR60 Subpart JJJJ?	Subject to Sections 5.1.4/5.2.1 (Catalytic Reduction Device)
GEN-01	No	No	No
GEN-02	No	No	No
GEN-03	No	No	No
GEN-04	No	No	No
GEN-05	No	No	No
GEN-06	Yes	No	No
GEN-07	Yes	No	No
GEN-08	Yes	No	No
GEN-09	Yes	No	No
GEN-10	Yes	No	No
GEN-11	Yes	No	No
GEN-12	Yes	No	No

### Emission Limitations

Source ID No.	Potential Emissions (lbs/hr)					Potential Emissions (tons/yr)				
	NO <sub>x</sub>	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	NO <sub>x</sub>	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>
GEN-01	8.26	3.49	0.45	5.14	0.44	2.06	0.87	0.11	1.28	0.11
GEN-02	5.89	1.27	0.47	0.39	0.42	1.47	0.32	0.12	0.10	0.10
GEN-03	5.89	1.27	0.47	0.39	0.42	1.47	0.32	0.12	0.10	0.10
GEN-04	9.95	4.21	0.54	6.19	0.54	2.49	1.05	0.13	1.55	0.13
GEN-05	3.07	0.66	0.24	0.20	0.22	2.49	1.05	0.13	1.55	0.13
GEN-06	10.70	2.30	0.85	0.71	0.76	2.67	0.58	0.21	0.18	0.19

Formatted Table

GEN-07	8.05	2.13	2.54	9.65	0.24	2.01	0.53	0.64	2.41	0.06
GEN-08	8.05	2.13	2.54	9.65	0.24	2.01	0.53	0.64	2.41	0.06
GEN-09	7.35	1.58	0.59	0.49	0.52	1.84	0.40	0.15	0.12	0.13
GEN-10	2.48	0.41	0.78	0.86	0.04	0.62	0.10	0.20	0.21	0.01
GEN-11	8.06	0.59	2.55	7.25	0.06	2.02	0.15	0.64	1.81	0.01
GEN-12	0.42	0.10	0.01	0.14	0.03	0.10	0.02	0.00	0.03	0.01
TOTAL	69.6978	19.4520	9.4712.0	33.6741.	3.8493	19.1321.	5.7592	2.453.09	9.911.7	1.0204
	17	14	3	06		25			5	

Formatted Table